

DERWENT-ACC-NO: 1996-468897  
DERWENT-WEEK: 199647  
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TITLE: Rule base production appts used in automatic modelling appts with CAD/CG functions - is furnished with knowledge relating part to combine various input data and modulate them into consistent knowledge block

PATENT-ASSIGNEE: SUMITOMO METAL IND LTD[SUMQ]

PRIORITY-DATA: 1995JP-0040319 (February 28, 1995)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
JP 08235239 A	September 13, 1996	N/A	006	G06F 017/50

APPLICATION-DATA:

PUB-NO	APPL-DESCRIPTOR	APPL-NO	APPL-DATE
JP08235239A	N/A	1995JP-0040319	February 28, 1995

INT-CL\_(IPC): G06F009/44; G06F017/50

ABSTRACTED-PUB-NO: JP08235239A

BASIC-ABSTRACT: The appts includes an input edit unit (1) through which various instrutions are received. The instructions received pertaining to receiving information acquired from a new knowledge base (10) and a registered knowledge base.

The acquired information is written into a memory (2) and a knowledge relating part (3) identifies the input data into one whole consistance block. The contents of this memory are searched through using knowledge search unit (4). The search result is displayed on screen of a knowledge displaying unit (5).

ADVANTAGE - Raises production efficiency.

CHOSEN-DRAWING: Dwg.1/8

TITLE-TERMS:

RULE BASE PRODUCE APPARATUS AUTOMATIC MODEL APPARATUS CAD  
FUNCTION FURNISH

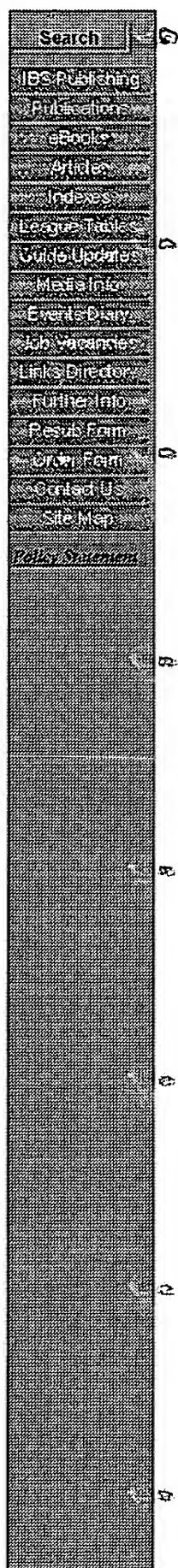
RELATED PART COMBINATION VARIOUS INPUT DATA MODULATE CONSISTENT  
BLOCK

DERWENT-CLASS: T01

EPI-CODES: T01-J15; T01-J16;

SECONDARY-ACC-NO:

Non-CPI Secondary Accession Numbers: N1996-395140



## **This article is extracted from the Retail Banking Systems Index 2000**

### ***An overview of the year from February 1999 to January 2000***

**The year has been notable for the emergence of a number of would-be high-end solution providers, including a couple of heavyweights. However, their progress - and that of existing suppliers - has been far from smooth**

It has been a year of significant change in the retail back office systems market. There is seemingly strong demand for new systems, particularly as the Y2K brakes come off. There is still a lack of choice, but things looked markedly better on this front at the end of the year than they had at the start. This is most notable at the top end of the market, with IBM and SAP making progress with mainframe-based solutions.

For IBM, it was a mixed year. A major blow came early, when Svenska Handelsbanken cancelled its implementation of the Corebank system (RBS 1.0). It was the last in a sorry trail of failures across Europe. In fact, there was a fair amount of doom and gloom at the start of 1999. Over in Denmark, at about the same time, Christiania Bank was giving up on another high-end system, Provida's ProRetail (RBS 1.0). This contributed to mounting financial problems for the Norwegian supplier. The timing of the cancellations did not seem to be a coincidence. The banks in question needed to decide whether to risk continuing with the late running projects or revert back to their existing systems and ensure that they were Y2K compliant.

By the end of the year, Corebank was finally looking like a commercial offering, having gone live at the Danish savings banks, where it was originally defined (RBS 1.9). IBM remained committed to the system and began marketing it once more. Provida embarked on a damage limitation exercise, which saw Christiania Bank acquire a stake in the company (RBS 1.1).

The other potentially interesting entrant onto the market is SAP. Its Core Banking product is intended to be a full retail back office

solution. It has emerged out of three small German banks and has started to gain one or two takers outside of this country (RBS 1.0). The biggest breakthrough came with a deal from the Deutsche Postbank, which will ultimately use the system to support 10 million customers across 14,000 outlets (RBS 1.7). The product plan is for the bank and supplier to work on support for savings and deposits over the next couple of years, plus consumer and mortgage loans in the next two to three years. At present, the main support is for current accounts.

In addition to this activity, a couple of existing suppliers are hoping to come up with mainframe versions of their retail back office systems (RBS 1.7). Sanchez is working with IBM to this end, seeking to migrate its Profile/Anyware product. There is a dedicated team made up of staff from the two companies. System Access is similarly inclined, with its Symbols system. This solution is based on Oracle and the migration would seem to be more straightforward than for the Profile system, which was originally written under Mumps for the DEC VAX. System Access, armed with hefty investment from Warburg Pincus, spent 1999 building up its infrastructure and gained a couple of notable wins, from Erste Bank (RBS 1.6) and ICICI Bank in India (RBS 1.9).

There was never a dull moment at Sanchez. Overall, it made good progress, albeit with a setback towards the end of the year. After a long and drawn out selection process, Profile was taken by the Irish Credit Unions (RBS 1.2), it was also taken by Amex Bank in Canada (RBS 1.1), and went live at ING Bank in Hungary (RBS 1.3), while the solution also made inroads in the e-banking arena, most notably as the back-end solution for Wingspan. Most notably, Sanchez claimed to have finally gained the on-off global deal with Citibank (RBS 1.5), with the bank citing a desire to standardise on systems worldwide.

However, within a few months, there seemed to have been a change of strategy once more, with Sanchez admitting that it did not expect any 'significant future revenue' from Citibank, at least in Europe, Middle East and Africa (RBS 1.8).

Phoenix International would probably have preferred a quieter 1999 but experienced a traumatic time. Its share price spiralled downward (the shares were suspended at one point) and it was the victim of a smear campaign on the noticeboards of Yahoo! (RBS 1.4). A number of relatively small-scale wins continued to come its way during the year, mostly from its traditional US community bank market. Towards the end of the year, it made a push into outsourcing, purchasing two small data centres (RBS 1.9).

Phoenix's north American rival, Prologic, had a better time of things. It made notable progress in Japan (RBS 1.1), its Ovation system went live in Australia, within the credit unions (RBS 1.8), and it rounded off with deals from ABSA Bank in South Africa and Robert Fleming in the UK (RBS 1.9). As with other suppliers, it has set out its internet banking stall, unveiling i-Wealthview (RBS 1.9). In Latin America, Ecuador-based Fisa made steady progress, bringing in a spate of wins (RBS 1.2, 1.8). Andersen Consulting's Altamira also made progress on this continent, most notably through a deal with BankBoston (RBS 1.1), as well as in Poland,

with a win at Bank Rozwoju Eksportu (RBS 1.6).

Whatever the ups and downs elsewhere, no one was able to match the slump of Australian back office system supplier, Solace. It went into voluntary liquidation (RBS 1.6). In the end, only one company was interested in acquiring the wreckage. This was South Africa-based Global Technology Limited, which acts as a distributor for Temenos' Globus system (RBS 1.9).

What of the wider trends and future directions? Outsourcing certainly came to the fore in Europe and elsewhere, as banks were forced to assess their core competences and seek ways to be more efficient. A number of US heavyweights are eyeing the opportunities, including Alltel (RBS 1.8); some European players are also seeking to expand, including UK-based Homeloan Management Limited (RBS 1.9). Mortgage processing is a key area of activity, so too retail brokerage. In the latter arena, the on-line tidal wave seems to be reaching the shores of Europe and Asia Pacific (RBS 1.9).

Cross-border low-value payments (LVP) was another area of considerable activity. Competition should be the way forward in Europe according to a number of studies, including one from the European Banking Federation (RBS 1.5). The European Banking Association was quick to rise to the challenge, formulating plans to support cross-border LVP over its existing Euro 1 network, probably followed by an automated clearing house type solution (RBS 1.6). The Eurogiro network took a lower key approach but continued to extend its reach (RBS 1.9). The euro as a whole is a frightening prospect for some banks. The need to support dual currency processing brings challenges in the back office (RBS 1.8).

Everywhere, the words 'Customer Relationship Management' were to the fore, but the area seems beset by hype and confusion. Tangible successes are few and far between (RBS 1.3), would-be suppliers are many, including the Enterprise Resource Planning giants, SAP, Oracle and IBM (RBS 1.6). Meanwhile, Microsoft is trying to connect the retail banking world through its Windows DNAfs-derived initiative (RBS 1.3).

Many of those topics will rumble on throughout 2000 and beyond. The back office is likely to be a major source of activity as banks breathe a sigh of relief after Y2K and prepare to confront the challenges of an ever more competitive market.

*Martin Whybrow, Retail Banking Systems, January 2000*

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**DAC' 96 Trip Report**

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/o o\    /  it's a FEATURE!"
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The Fourth Annual ESNUG/DAC Awards:

"Teamsters, Vegas &amp; DAC '96"

- or -

"One Engineer's Review of DAC '96 in Las Vegas, NV, June 3-7, 1996"

by John Cooley

Holliston Poor Farm, P.O. Box 6222, Holliston, MA 01746-6222  
Legal Disclaimer: "As always, anything said here is only opinion."

[ Check out pg. 16 in this week's (June 17th) EE Times or  
"cooley.gif" at "http://techweb.cmp.com/eet/eda/graphics/"  
for the photo of the DAC freebies and their awards! - John ]

Once I saw the AFL/CIO (the Teamsters) also having a conference in the same hotel as DAC, I had this weird sense that Vegas more their town than ours. These live-for-the-moment truckers drank like fish, would gamble away a month's pay in an hour at a blackjack table, and could keep an army of those "private nude dancers" busy in their hotel rooms until dawn. In contrast, my fellow more analytical engineers tended to drink lightly, only gambled a little money at the best odds (which we carefully calculated), and were way too afraid of AIDS to ever do anything more than look at a "private dancer."

While truckers impress each other with the inside scoop on Jimmy Hoffa, we engineers "wow" each other by discussing undocumented Synopsys commands. Truckers get belly laughs from telling offensive jokes about every race, creed, gender and color; engineers get their kicks safely reading "Dilbert." Clever engineers fret over which hot new start-up to join; clever truckers try to figure out how to skim off of the Teamsters Retirement Fund. (Even marketing people see us as "different". For conference freebies, truckers got fun everyday guy stuff like 6-packs of beer, boxes of cereal, and condoms. We engineers only got cheap T-shirts, coffee mugs and puzzles...)

Although, I'm quite happy as an engineer, there's part of me now wondering: "Is it too late to sign up for tractor trailer training school?"

Anyway, on with the 4th Annual ESNUG DAC Awards!

**GREENPEACE AWARD:** If EDA companies were living creatures, they'd be in one healthy eco-system. DAC grew 10 percent (to over 16,000 attendees) and the exhibit floorspace itself increased 25 percent. The exhibitor count jumped from last year's 152 to this year's 164. 32 of last year's companies didn't

come back with their own booths this year -- only to be replaced by 37 new companies. Although i-Logix, Vista, and Harmonix moved on, most of the missing 32 (like Attest, Exemplar, and Silerity) were gobbled up by larger companies as part of the EDA food chain. A few did simple name changes like Intergraph becoming VeriBest; a few even mutated, like the RaviCad's consulting becoming Virtual Chips, a PCI-IP company, -- but most of the new 37 are companies with new ideas.

"I don't know why they keep showing that stuff. After three years they've still never had a single customer outside of IBM."

- A user commenting on IBM EDA still showing BooleDozer and EinsTimer at this year's DAC.

"Jesus! We beg and grovel for a bloody \$2 billion and these slimeballs just saunter on in with \$7 billion!"

- An EDA vendor commenting that the jewelry convention also in Vegas during DAC displayed \$7 billion of merchandise. (The EDA industry as a whole only nets about \$2 billion per year.)

BIG CHICKEN AWARD: When Nanette Collins (who does PR for VHDL International) asked me to attend DAC's first Workshop for Women in EDA (as an observer), a little angel in my right ear said: "John, now you can share that Bill Clinton part of you which strongly supports Equal Opportunity. It'll be a teary-eyed moment to celebrate our human diversity." Then a little devil in my left ear said: "Are you kidding!?! Nanette wants blood for all that press about sparsely attended VIUF's. She knows the Rush Limbaugh side of you dislikes Affirmative Action and is more than clever enough to make her fantasy EE Times headline 'COOLEY KILLED BY ANGRY MOB OF EDA FEMINISTS' come true!" (Self-preservation being a stronger instinct, I chickened out. I later heard 101 women and two men attended: Bob Bellinger of EE Times and an unnamed weasel/headhunter who kept asking everyone for their business cards.)

WORST FIRST IMPRESSIONS PARTY: Simplex Solutions took customers to see the movie "Mission Impossible"; those who went were left stranded at a distant theater with no taxi's. Four AT&T engineers grouched: "The final kicker was when 5 Simplex people jumped in their car laughing and just drove away."

"I guess the moral is, don't entrust your life to a CAD vendor."

- Eric McCaughrin of SGI, who took a defective Veritools water bottle on a 3 day camping trip in the Grand Canyon.

MOST UNORIGINAL "NEW" PRODUCT IDEA AT DAC: Cycle-based simulators. At least a dozen companies (SpeedSim, Frontline, Fintronic, Synopsys, Vantage, Chronologic, Pendulum, Cadence, Cadence Alta, Synopsys, Mentor (rumored), and CAE Plus) have or are working on one. It's like the R&D staffs from these companies all call the same psychic hotline for advice.

FIRST 3-D DEMO AT DAC: Mimicing the crowds of people in the 1950's who went to watch 3-D movies, nearly 300 DAC attendees donned special polarizing glasses to watch LogicVision's Built In Self Test (BIST) demo -- a DAC first.

VERILOG VS. VHDL (PART 2): This time it's analog. The Verilog-A LRM was approved at this DAC. Cadence, Meta-Software and Apteq are already finalizing their Verilog-A simulators. (Nanette wasn't too happy informing me that the VHDL-A LRM, which was supposed to be done by this DAC, was again delayed.)

"I still stand by those words."

- Cadence CEO Joe Costello about his IVC quote that VHDL "was a \$400 million mistake." (Ironically, Cadence also sells a VHDL

simulator that has done quite well in the public benchmarks.)

IP WAS HOT: Companies like VLSI Libraries, 3Soft, Technical Data Freeway, Virtual Chips, SAND, CAST and Synopsys were all getting attention from customers wanting re-usable designs. Not wanting to be left out, Xilinx pushed its LogicCore program, Altera released its LPM to the public domain, and Crosspoint touted its CoreBank program for third party designs. (There were even hot rumors that these companies were in the act of forming some sort of "IP Alliance" at DAC.) Some even saw Casacade as an IP company.

FUNCTIONAL VERIFICATION WAS HOTTER: Eagle Design, DS Diagonal Systems, Chronology, Cadence Alta, NuThen, and even the tiny Levetate got special consideration from engineers trying to verify designs. But what most users ranted about was the newbie InSpec. While most companies in this category (which was easily confused with HW/SW Co-design) pretty much offered waveform viewers and a framework all wrapped up in a glitzy GUI, InSpec gave users an automatic way to generate functional test vectors combined with a clever graphical analysis tool that quickly points out coverage holes. System Science also offers a dialect of Verilog that makes test generation easier.

MOST IMPROVED COMPANY: ViewLogic. They're no longer hemorrhaging employees (in fact, they're growing), the legal battle with the old Chronologic staff is \*finally\* over, and instead of giving out cheesy white T-shirts, this year they gave out golfer's putters which tied with Altera's basketballs for BEST DAC FREEBIE. View/Silerity's datapath compiler can now use accurate View/Quad MOTIVE timing plus interface to the third party Synopsys Design Compiler. View/Chronologic's VCS got ASIC sign-off status from Motorola, LSI, Toshiba, and Lucent. VCS Roadrunner is beefed up 5X to 10X plus it's now integrated with the View/Quad MOTIVE static timing analyzer and the View/Sunrise ATPG tools. View/Chronologic's universally-executable-yet-still-encrypted Verilog Model Compiler (VMC) is perfectly poised to take advantage of the growing IP boom. Good rebound, Viewlogic!

"We started the user group and let it go. Like many fledglings, it struggled for a bit and died. I even think Sean Murphy was the Chairman the user's group at the time."

- Viewlogic CEO Alain Hanover responding to Sean Murphy's asking about needing a user group to develop innovative tools. (Sean was never involved with Viewlogic's users group.)

"To Alain Hanover, CEO of Viewlogic: What happened to the IC PowerTeam concept? I don't hear about it anymore."

- Daniel Payne, Mentor Graphics, who was the Viewlogic marketing manager for IC PowerTeam before joining Mentor.

"YES, YOU CAN TEACH AN OLD DOG NEW TRICKS" AWARD: Unlike Savantage's SavanSys, which is more of an engineer's business analysis tool to juggle costs and a system's physical implementation (by answering: "Would this work better as 5 small PCB's and a backplane or as 2 bigger PCB's with connectors?"), Omniview's FIDELITY is truly a system-level synthesis tool. An offshoot of the Carnegie-Mellon "Micon" project, it works as an add-on to Mentor's Design Architect and Viewpoint Editors. The user enters in a block diagram a very detailed, highly parameterized design which FIDELITY then breaks down into specific commercial IC's. It's a lot like schematic capture on steroids and with a slightly higher IQ.

POWER! POWER! POWER!: The power freaks at this year's DAC got off on EPIC's AMPS (a swapper that could optimize 30,000 transistor designs based on power, delay and area), Simplex (for their circuit-level power analysis tools that shows IC hot spots), Sente's WattWatcher (an RTL-level pre-synthesis power analysis tool), System Science's toolset, and Cadabra's LILA. Synopsys Power Compiler got some interest, but there were far too many companies with SPICE

level/mixed signal solutions to choose from at DAC: Agape, Anagram, Analogy, Ansoft, Bell Labs, CAD-Migos, Cadence, Contec, Deutsch Research, Interactive Image, Mentor, Meta-Soft, Microsim, OEA, Symetry, TMA, and VeriBest.

"After 15 years in this business, you stop believing in physics."

- Gary Smith of Dataquest, after a professor just explained how it's physically impossible to design at 0.18 microns.

"We call them 'Cheech & Chong'."

- An EDA competitor referring to Cooper & Chyan Technology.

**MOST DRAMATIC NEW PRODUCT ANNOUNCEMENT:** The Friday before DAC, Simon Perry, Chief Editor of a British electronics publication phoned around in the EDA community asking "What's Synopsys' big secret announcement at DAC?" On the Free DAC Monday, Synopsys had a security guard standing next to a workstation covered with black drapes and a big "?" sign. There was an extra sign saying "You can find out at 2:30 today." At 2:30 they had over 200 people standing around this draped workstation. Moments before the big Synopsys 2:30 press announcement, the Synopsys people even caught and kicked out Synplicity CEO Alisa Yaffa while she protested: "Hey, this is a press announcement!!! It's public information!!!" Turns out that Synopsys was announcing FPGA Express, a PC based FPGA synthesis tool that will directly compete with Synplicity. (Oddly enough, I thought I heard Nanette whisper "YES!" when they said FPGA Express had a built-in VHDL tutorial but no Verilog tutorial.)

"Seventy percent of my sales are on the PC. Seventy percent of my revenues are from UNIX."

- ViewLogic CEO Alain Hanover two years ago justifying why he bought so many top of the line UNIX-based EDA companies.

"Take a gamble on us! SYNOPSYS"

- The logo on the freebie pocket protectors Synopsys gave out at their DAC party four hours after announcing FPGA Express.

"I'd be happy to provide them the catsup for the crow they're now eating."

- Dan Ganousis of VeriBest, who pushed EDA on Windows NT for 3 years, noticing how the big EDA companies are now jumping in.

**MOST CURIOUS NEW COMPANY:** TriQuest offers a finite state machine thingy that does all sorts of bizarre optimizations, decompositions and transmutations on RTL level state machine code. Whoa!

**"NICHE WITHIN A NICHE" AWARD:** Promoting a funky sort of BIST, CrossCheck sells the ability to make low power designs, fabbed only at Asian foundries, fully testable. Frequency Technology offers a sub-half-micron, interconnect calculator that specializes in troublesome 3-D geometries. Two runners up: Incases makes a 3-D radiation simulation tool for PCB design and K2 offers "automated reticle synthesis and high speed viewing."

**MOST LIKELY TO GET SUED:** While other EDA vendors are trying to get Synopsys to put their proprietary compiler directives and pragmas into the public domain, ACEO Technology is already openly using them.

**MOST APPROPRIATE FREEBIE:** Cadence gave away free stopwatches so engineers could time, in minutes, how long they still had a job once a Cadence Spectrum Services salesman found their VP of Engineering. You can even set it to time in seconds once the Spectrum Technical Assessment Team arrives at your site! Cool!

"OK, Spectrum Consulting may not be for everyone. No one is making you use it. I've never held a gun to anyone's head... yet."

- Cadence CEO Joe Costello responding to John Cooley's pointed questions about his consulting division.

**BEST DAC PARTY:** A tie between Quickturn and Mentor/Sun/HP. Users loved the Monday night party where Quickturn took everyone to see Penn & Teller's comedy/magic show. A lot of them enjoyed the quips Penn (the one who speaks) took at engineers and Quickturn. One such Penn quote: "Welcome to Quickturn. This is all mirrors, deception, misdirection and slight of hand... Oh, I'm speaking for Penn & Teller, not Quickturn right now." Teller (the one who never speaks) even spoke to answer questions! On Tuesday night the hot party to crash was Mentor Graphic's 15th Anniversary (which was also co-sponsored by Sun and HP.) They rented the entire MGM Theme Park where users got to see an acrobatic dualing pirate show, go on water rides and simulated underground rides, see all sorts of roving musicians and odd characters roaming the park (like clowns, giant mice, and Elvises) plus two free drinks and dessert. ("Beer and cake, yum!") Everyone got a stuffed dog doll and a nice Mentor/Sun knit shirt as freebies.

"We had one influential Asian customer ask that we send both a male and a female stripper to his hotel room. Nobody knows what happened for those two hours -- but it cost my company \$700."

- An anonymous voicemail from someone claiming to be an EDA vendor responding to a survey question.

"What's 'parasitic extraction'?! Getting your ex-wife off of alimony?"

- Overheard by a PR agent immediately after a press briefing.

**"WHEN HARRY MET SALLY" FAKING IT AWARD:** Escalade. Most of the ESDA vendors competed in the "Great ESDA Shootout" at the last HP Design SuperCon. It had an impact on these companies. Wally Rhines, CEO of Mentor, said his System Architect is being changed to make it more useable because of what happened in the Shootout. After clearing up a reporting snafu that Speed Electronics did, I resynthesized Speed's design using FSM Compiler two days before DAC, getting results of 1.80 nsecs -- placing Speed up with the hand coders in the shootout. And Summit Design should get some sort of DAC FREQUENT FLYER BONUS AWARD for how much mileage they got out of doing so well in the Shootout. The kicker was that although Escalade chickened out of the ESDA Shootout, they apparently were telling customers on the DAC floor some incredible synthesis numbers they got from doing this shootout!

**MOST CONTENT-FREE (AND ANNOYING!) FLOOR SHOW:** For the \*second year\* in a row, both users and EDA vendors felt the HP floor show was the most content-free in all of DAC. "I got so bored I didn't even wait around to get whatever freebie they were giving out." said on EDA user. The EDA vendors (especially any within a four booth radius) were especially pissed with HP because they had a very loud simulated earthquake every 20 minutes that was very annoying.

**CAN'T KEEP IT UP AWARD:** Many were frustrated that DACnet was down for most of DAC. "This year it wasn't worth hacking. It was down so much nobody could use it.", said the Swiss president of RubiCAD, Michael Reinhardt, who hacked DACnet last year to send junk e-mail to potential customers.

"Is there a technical person in the house?"

- John Cooley to a room filled with hundreds of engineers when the microphones went dead on the DAC/CEO panel.

"It's also an early warning system. If you're at work and you're seriously thinking of opening and eating it, it's time to go home."